



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,449

06/04/2007

Yoshiichi Horikoshi

SON-3175

4477

23353 7590 10/14/2009  
RADER FISHMAN & GRAUER PLLC  
LION BUILDING  
1233 20TH STREET N.W., SUITE 501  
WASHINGTON, DC 20036

EXAMINER

WALFORD, NATALIE K

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

10/14/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,449	<b>Applicant(s)</b> HORIKOSHI ET AL.	
	<b>Examiner</b> NATALIE K. WALFORD	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5,13,14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5,13,14 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2879

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on June 8, 2009, has been entered and acknowledged by the Examiner. Cancellation of claim 15 has been entered. Claims 1, 5, 13-14, and 16 are pending in the instant application.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities:

Claim 1 recites the limitation "the second lead-in wire" in the seventeenth line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 07-014542) in view of McVey (US 4,464,603) in further view of Kai et al. (US PUB 2001/0048269).

Regarding claim 1, Sato disclose a discharge lamp in figure 1 comprising: an electrode including: a heater constituted of a coil portion (item 6) and a first lead wire portion (item 5) and

Art Unit: 2879

a second lead wire portion (item 5) that respectively connect the coil portion through a rear end of the coil portion (see FIG. 1), the heater having an electron emission material applied thereto (paragraph 8); and a connection-reinforcing member that has a first connection member (item 7) for connecting the first lead wire portion, and a second connection member (item 7) for connecting the second lead wire portion, while the first and second connection members integrated with each other by means of a coupling portion are separated from each other by cutting the coupling portion (see FIG. 1), wherein the connection-reinforcing member is supported by any one of the first and second connection members (see FIG. 1); wherein in the electrode, the first lead wire portion is connected to a first lead-in wire (item 5) and the second lead wire portion is connected to the second lead-in wire (item 5), said first and second lead-in wires being provided on two opposed ends of a glass tube (item 2) in which a gas (paragraph 7) containing a light-emitting material is enclosed and to an interior of which fluorescent substance (paragraph 7) is coated; wherein the coil portion is arranged vertically along a tube axis of the glass tube (see FIG. 1); and wherein the coil portion is structured by a spiral wire with it being further wound spirally and without coming into contact therewith (see FIGS. 1 or 2), but does not expressly disclose that each of the first and second connection members being composed of L-shaped plate member and a scattering-prevention member, which is a cylindrical sleeve whose both ends are open, for covering surrounding of the coil portion, said both open ends respectively facing the forward end and the rear end of the coil portion and a sleeve lead wire, which is attached to said scattering prevention member at one end and to said heater at the other end, as claimed by Applicant.

Art Unit: 2879

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have each of the first and second connection members being composed of L-shaped plate member, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. Furthermore, Applicant has not disclosed that having the first and second connection members being composed of L-shaped plate member solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the same structure as described by Sato. McVey is cited to show a discharge lamp in figure 1 with a cylindrical sleeve (item 18) whose both ends are open. McVey teaches that the sleeve provides end closure (column 1, line 68 thru column 2, line 4). Kai is cited to show a lamp in figure 11 with a sleeve (item 140) that is attached to a lead wire (item 65). Kai teaches that the sleeve prevents the lead wire from being fragile (paragraph 11).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sato's invention to include a scattering-prevention member, which is a cylindrical sleeve whose both ends are open, for covering surrounding of the coil portion, said both open ends respectively facing the forward end and the rear end of the coil portion and a sleeve lead wire, which is attached to said scattering prevention member at one end and to said heater at the other end as suggested by McVey and Kai for providing end closure and preventing the lead wire from being fragile.

Regarding claim 5, the combined reference of Sato, McVey, and Kai disclose the discharge lamp according to claim 1, wherein in the electrode, a forward end of the coil portion

Art Unit: 2879

is arranged toward an interior of the sleeve without it exceeding an open end face of the sleeve at the forward end side thereof (McVey; see FIGS. 1-3).

Regarding claim 16, the combined reference of Sato and McVey disclose a lighting system using the discharge lamp according to claim 1 (Sato; see FIG. 1).

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (JP 07-014542) in view of view of Kai et al. (US PUB 2001/0048269).

Regarding claim 13, Sato discloses a method for manufacturing a discharge lamp electrode in figure 1, the method comprising: a winding step of winding a wire (item 6) to form a heater, said heater having a coil portion (item 6) and a first lead wire portion (item 5) and a second lead wire portion (item 5) that extend respectively from a rear end of the coil portion; a connection-reinforcing-member-welding step of welding the first lead wire portion of the heater to a first connection member (item 7) of a connection-reinforcing member (paragraph 9), and of welding the second lead wire portion of the heater to a second connection member (item 7) of the connection-reinforcing member (paragraph 9), said connection-reinforcing member including the first and second connection members with them being integrated with each other by means of a coupling portion (item 8); an application step of applying an electron emission material to the heater in a condition where the heater is held by the connection-reinforcing member (paragraph 8); a lead-in portion welding step of welding a first lead-in wire (item 5) to the first connection member and a second lead-in wire (item 5) to the second connection member (paragraph 9); and a cutting step of cutting off the coupling portion from the connection-reinforcing member to separate the first and second connection members from each other (see FIG. 1), but does not

Art Unit: 2879

expressly disclose a sleeve welding step of welding a sleeve lead wire to any one of the first and second connection members and inserting the heater into the inside of a scattering-prevention member, which is a cylindrical sleeve, as claimed by Applicant.

Kai is cited to show a lamp in figure 11 with a sleeve (item 140) that is attached to a lead wire (item 65) by welding (paragraph 11). A heater (item 130) is then inserted into the sleeve. Kai teaches that the sleeve prevents the lead wire from being fragile (paragraph 11).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sato's invention to include a sleeve welding step of welding a sleeve lead wire to any one of the first and second connection members and inserting the heater into the inside of a scattering-prevention member, which is a cylindrical sleeve as suggested by Kai for preventing the lead wire from being fragile.

Regarding claim 14, the combined reference of Sato and Kai disclose the method for manufacturing the discharge lamp electrode according to claim 13, wherein the winding step comprises: a first winding sub-step of winding a wire around a core wire (paragraph 8 and see FIG. 2); and a second winding sub-step of spirally winding the wire that have been wound around the core wire without come into contact therewith (paragraph 8 and see FIG. 2); and wherein a dissolving step of dissolving the core wire is performed after the connection-reinforcing-member-welding step (paragraph 8 and see FIG. 2).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 5, and 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2879

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications



Art Unit: 2879

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

/Natalie K Walford/

Examiner, Art Unit 2879

/NIMESHKUMAR D. PATEL/

Supervisory Patent Examiner, Art Unit 2879